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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,142	06/30/2003	Ashoke Ravi	P-5783-US	8192

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EXAMINER	
YUN, EUGENE	

ART UNIT	PAPER NUMBER
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/608,142	RAVI ET AL.	
	Examiner	Art Unit	
	Eugene Yun	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-11,13-17,19-21 and 23-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-11,13-17,19-21 and 23-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/23/2007 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 11, and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Newly added limitations in the independent claims, such as "...wherein the first amplifier and the second amplifier are controlled by a single tuning voltage..." are not believed by the examiner to be clearly supported in the specification. Nowhere in the specification does it show that one single tuning voltage controls two separate amplifiers. The specification does indicate that the first

and second amplifiers are controlled by "a" tuning voltage. However, the examiner did not find any indication that the tuning voltage is the "only" tuning voltage used.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 11, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori et al. (US 5,481,227) in view of Kubo et al. (US 5,355,532).

Referring to Claim 1, Komori teaches an apparatus comprising a tunable oscillator having a tuned output frequency (see col. 2, lines 24-32) comprising:

A first oscillation path (see first oscillating loop in fig. 1) having a first amplifier 3 (fig. 1) and a first oscillation tank with a first free running frequency (see f1 in fig. 1);

A second oscillation path (see second oscillating loop in fig. 1) having a second amplifier 9 (fig. 1) and a second oscillation tank with a second free running frequency (see f2 in fig. 1), the second oscillation path being connected in parallel to the first oscillation path (see col. 3, lines 37-45 and fig. 1 where it is shown that the first and second oscillating loops are in parallel);

Wherein the first amplifier and the second amplifier are controlled by a tuning voltage (see col. 2, lines 12-23), and wherein the output frequency is tunable between

the first free running frequency and the second free running frequency (see col. 4, lines 40-52).

Komori does not teach the first amplifier and the second amplifier controlled by a single tuning voltage. Kubo teaches the first amplifier and the second amplifier controlled by a single tuning voltage (see col. 2, lines 32-37 and fig. 2 where a tuning voltage from F' is applied between first 22 and second 25 amplifiers). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Kubo to the device of Komori in order to better simplify a tuning circuit while maintaining performance.

Referring to Claim 21, Komori teaches a method comprising:

Tuning an output frequency of a tunable oscillator to a value between a first free-running frequency of a first oscillation tank and a second free-running frequency of a second oscillation tank (see col. 4, lines 40-52);

Wherein tuning comprises:

Providing a tuning voltage at a node connected between first and second oscillation paths of said oscillator (see col. 2, lines 12-23), wherein the first oscillation path is parallel to the second path (see col. 3, lines 37-45 and fig. 1 where it is shown that the first and second oscillating loops are in parallel), wherein the first oscillation path (see first oscillating loop in fig. 1) includes a first amplifier 3 (fig. 1) and said first oscillation tank (see f1 in fig. 1), and wherein the second oscillation path (see second oscillation path in fig. 1) includes a second amplifier 9 (fig. 1) and said oscillation tank (see f2 in fig. 1);

And controlling the first amplifier and the second amplifier by the tuning voltage (see col. 2, lines 12-23).

Komori does not teach providing a single tuning voltage at a node connected between first and second oscillation paths of said oscillator. Kubo teaches providing a single tuning voltage at a node connected between first and second oscillation paths of said oscillator (see col. 2, lines 32-37 and fig. 2 where a tuning voltage from F' is applied between first 22 and second 25 amplifiers). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Kubo to the device of Komori in order to better simplify a tuning circuit while maintaining performance.

Referring to Claim 11, Komori teaches a wireless communication device comprising:

A dipole antenna to send and receive wireless communication signals (see col. 6, lines 5-8 noting that the use of FM band signals usually involves the use of a dipole antenna); and

a tunable oscillator having a tuned output frequency (see col. 2, lines 24-32) comprising:

A first oscillation path (see first oscillating loop in fig. 1) having a first amplifier 3 (fig. 1) and a first oscillation tank with a first free running frequency (see f1 in fig. 1);

A second oscillation path (see second oscillating loop in fig. 1) having a second amplifier 9 (fig. 1) and a second oscillation tank with a second free running frequency (see f2 in fig. 1), the second oscillation path being connected in parallel to the first

oscillation path (see col. 3, lines 37-45 and fig. 1 where it is shown that the first and second oscillating loops are in parallel);

Wherein the first amplifier and the second amplifier are controlled by a tuning voltage (see col. 2, lines 12-23), and wherein the output frequency is tunable between the first free running frequency and the second free running frequency (see col. 4, lines 40-52).

Komori does not teach the first amplifier and the second amplifier controlled by a single tuning voltage. Kubo teaches the first amplifier and the second amplifier controlled by a single tuning voltage (see col. 2, lines 32-37 and fig. 2 where a tuning voltage from F' is applied between first 22 and second 25 amplifiers). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Kubo to the device of Komori in order to better simplify a tuning circuit while maintaining performance.

6. Claims 3-7, 9, 10, 13-17, 19, 20, and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komori and Kubo and further in view of Igarashi et al. (US 5,950,143).

Referring to Claims 3, 13, and 23, the combination of Komori and Kubo does not teach an adder to add first and second signal components passing through said first and second paths. Igarashi also teaches an adder to add first and second signal components passing through said first and second paths (see col. 12, lines 21-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to provide the teachings of Igarashi to the modified device of Komori and Kubo in order to better reduce interference between oscillation signals.

Referring to Claims 4, 14, and 24, Komori also teaches the first and second amplifiers having gains and the gains of the amplifiers as complimentary (see col. 5, lines 27-28).

Referring to Claims 5, 15, and 25, Igarashi also teaches the sum of the gains of the first and second amplifiers as substantially constant (see col. 12, lines 21-27).

Referring to Claims 6, 16, and 26, Igarashi also teaches the sum of the gains of the first and second amplifiers as substantially equal to one (see col. 1, lines 21-27).

Referring to Claims 7, 17, and 27, Igarashi also teaches the tunable oscillator able to control the relative values of the gains of the first and second amplifiers (see col. 12, lines 28-37).

Referring to Claims 9 and 19, Igarashi also teaches controlling first and second voltages applied to said first and second amplifiers, respectively (see col. 10, lines 22-41).

Referring to Claims 10 and 20, Igarashi also teaches the first path comprising a first transconductor and the second path comprising a second transconductor (see col. 9, line 66 to col. 10, line 14).

Response to Arguments


7. Applicant's arguments with respect to claims 1, 3-7, 9-11, 13-17, 19-21, and 23-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Yun whose telephone number is (571) 272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571)272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Eugene Yun
Examiner
Art Unit 2618

EY